RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/510,523
Source: PCT/10
Date Processed by STIC: 10/16/04

ENTERED

PCT

RAW SEQUENCE LISTING DATE: 10/16/2004
PATENT APPLICATION: **US/10/510,523** TIME: 09:06:06

Input Set : **A:\MER132SEQ.TXT**
Output Set: **N:\CRF4\10162004\J510523.raw**

```
      4 <110> APPLICANT: CARTER, Graham
      5       CARR, Francis J.
      7 <120> TITLE OF INVENTION: ANTI-IDIOTYPE ANTI-CEA ANTIBODY
      8       MOLECULES AND METHODS
     10 <130> FILE REFERENCE: MER-132
C--> 12 <140> CURRENT APPLICATION NUMBER: US/10/510,523
C--> 12 <141> CURRENT FILING DATE: 2004-10-07
     12 <150> PRIOR APPLICATION NUMBER: PCT/03/03580
     13 <151> PRIOR FILING DATE: 2003-04-07
     15 <150> PRIOR APPLICATION NUMBER: EP 02007885.3
     16 <151> PRIOR FILING DATE: 2002-04-09
     18 <160> NUMBER OF SEQ ID NOS: 34
     20 <170> SOFTWARE: FastSEQ for Windows Version 4.0
     22 <210> SEQ ID NO: 1
     23 <211> LENGTH: 117
     24 <212> TYPE: PRT
     25 <213> ORGANISM: Mus musculus
     27 <400> SEQUENCE: 1
     28 Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala
     29  1               5                  10                  15
     30 Ser Val Lys Ile Ser Cys Lys Thr Ser Gly His Thr Phe Thr Glu Tyr
     31             20                  25                  30
     32 Asn Met Gln Trp Val Lys Gln Ser Leu Gly Gln Ser Leu Glu Trp Ile
     33         35                  40                  45
     34 Gly Gly Ile Asn Pro Asn Asn Val Gly Ser Ile Tyr Asn Gln Lys Phe
     35     50                  55                  60
     36 Arg Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr
     37 65                  70                  75                  80
     38 Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
     39                 85                  90                  95
     40 Ala Arg Gly Tyr Gly Asn Tyr Val Ala Tyr Trp Gly Gln Gly Thr Leu
     41             100                 105                 110
     42 Val Thr Val Ser Ala
     43         115
     46 <210> SEQ ID NO: 2
     47 <211> LENGTH: 107
     48 <212> TYPE: PRT
     49 <213> ORGANISM: Mus musculus
     51 <400> SEQUENCE: 2
     52 Asp Ile Val Met Thr Gln Ser Gln Lys Phe Met Ser Thr Ser Val Gly
     53  1               5                  10                  15
     54 Asp Arg Val Ser Val Thr Cys Lys Ala Ser Gln Asn Val Asn Thr Asn
     55             20                  25                  30
```

RAW SEQUENCE LISTING DATE: 10/16/2004
PATENT APPLICATION: **US/10/510,523** TIME: 09:06:06

Input Set : **A:\MER132SEQ.TXT**
Output Set: **N:\CRF4\10162004\J510523.raw**

```
56 Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Ser Leu Ile
57         35                  40                  45
58 Tyr Ser Ala Ser Tyr Arg Tyr Ser Gly Val Pro Asp Arg Phe Thr Gly
59     50                  55                  60
60 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn Val Gln Ser
61 65                  70                  75                  80
62 Glu Asp Leu Ala Glu Phe Phe Cys Gln Gln Tyr Asn Arg Tyr Pro Phe
63                 85                  90                  95
64 Thr Phe Gly Gly Gly Thr Lys Leu Glu Leu Lys
65             100                 105
68 <210> SEQ ID NO: 3
69 <211> LENGTH: 645
70 <212> TYPE: PRT
71 <213> ORGANISM: Homo sapiens
73 <400> SEQUENCE: 3
74 Lys Leu Thr Ile Glu Ser Thr Pro Phe Asn Val Ala Glu Gly Lys Glu
75  1               5                  10                  15
76 Val Leu Leu Leu Val His Asn Leu Pro Gln His Leu Phe Gly Tyr Ser
77             20                  25                  30
78 Trp Tyr Lys Gly Glu Arg Val Asp Gly Asn Arg Gln Ile Ile Gly Tyr
79         35                  40                  45
80 Val Ile Gly Thr Gln Gln Ala Thr Pro Gly Pro Ala Tyr Ser Gly Arg
81     50                  55                  60
82 Glu Ile Ile Tyr Pro Asn Ala Ser Leu Leu Ile Gln Asn Ile Ile Gln
83 65                  70                  75                  80
84 Asn Asp Thr Gly Phe Tyr Thr Leu His Val Ile Lys Ser Asp Leu Val
85                 85                  90                  95
86 Asn Glu Glu Ala Thr Gly Gln Phe Arg Val Tyr Pro Glu Leu Pro Lys
87             100                 105                 110
88 Pro Ser Ile Ser Ser Asn Asn Ser Lys Pro Val Glu Asp Lys Asp Ala
89         115                 120                 125
90 Val Ala Phe Thr Cys Glu Pro Glu Thr Gln Asp Ala Thr Tyr Leu Trp
91     130                 135                 140
92 Trp Val Asn Asn Gln Ser Leu Pro Val Ser Pro Arg Leu Gln Leu Ser
93 145                 150                 155                 160
94 Asn Gly Asn Arg Thr Leu Thr Leu Phe Asn Val Thr Arg Asn Asp Thr
95                 165                 170                 175
96 Ala Ser Tyr Lys Cys Glu Thr Gln Asn Pro Val Ser Ala Arg Arg Ser
97             180                 185                 190
98 Asp Ser Val Ile Leu Asn Val Leu Tyr Gly Pro Asp Ala Pro Thr Ile
99         195                 200                 205
100 Ser Pro Leu Asn Thr Ser Tyr Arg Ser Gly Glu Asn Leu Asn Leu Ser
101     210                 215                 220
102 Cys His Ala Ala Ser Asn Pro Pro Ala Gln Tyr Ser Trp Phe Val Asn
103 225                 230                 235                 240
104 Gly Thr Phe Gln Gln Ser Thr Gln Glu Leu Phe Ile Pro Asn Ile Thr
105                 245                 250                 255
106 Val Asn Asn Ser Gly Ser Tyr Thr Cys Gln Ala His Asn Ser Asp Thr
107             260                 265                 270
```

RAW SEQUENCE LISTING DATE: 10/16/2004
PATENT APPLICATION: **US/10/510,523** TIME: 09:06:06

Input Set : **A:\MER132SEQ.TXT**
Output Set: **N:\CRF4\10162004\J510523.raw**

```
108 Gly Leu Asn Arg Thr Thr Val Thr Thr Ile Thr Val Tyr Ala Glu Pro
109         275                 280                 285
110 Pro Lys Pro Phe Ile Thr Ser Asn Asn Ser Asn Pro Val Glu Asp Glu
111     290                 295                 300
112 Asp Ala Val Ala Leu Thr Cys Glu Pro Glu Ile Gln Asn Thr Thr Tyr
113 305                 310                 315                 320
114 Leu Trp Trp Val Asn Asn Gln Ser Leu Pro Val Ser Pro Arg Leu Gln
115                 325                 330                 335
116 Leu Ser Asn Asp Asn Arg Thr Leu Thr Leu Leu Ser Val Thr Arg Asn
117             340                 345                 350
118 Asp Val Gly Pro Tyr Glu Cys Gly Ile Gln Asn Glu Leu Ser Val Asp
119         355                 360                 365
120 His Ser Asp Pro Val Ile Leu Asn Val Leu Tyr Gly Pro Asp Asp Pro
121     370                 375                 380
122 Thr Ile Ser Pro Ser Tyr Thr Tyr Tyr Arg Pro Gly Val Asn Leu Ser
123 385                 390                 395                 400
124 Leu Ser Cys His Ala Ala Ser Asn Pro Pro Ala Gln Tyr Ser Trp Leu
125                 405                 410                 415
126 Ile Asp Gly Asn Ile Gln Gln His Thr Gln Glu Leu Phe Ile Ser Asn
127             420                 425                 430
128 Ile Thr Glu Lys Asn Ser Gly Leu Tyr Thr Cys Gln Ala Asn Asn Ser
129         435                 440                 445
130 Ala Ser Gly His Ser Arg Thr Thr Val Lys Thr Ile Thr Val Ser Ala
131     450                 455                 460
132 Glu Leu Pro Lys Pro Ser Ile Ser Ser Asn Asn Ser Lys Pro Val Glu
133 465                 470                 475                 480
134 Asp Lys Asp Ala Val Ala Phe Thr Cys Glu Pro Glu Ala Gln Asn Thr
135                 485                 490                 495
136 Thr Tyr Leu Trp Trp Val Asn Gly Gln Ser Leu Pro Val Ser Pro Arg
137             500                 505                 510
138 Leu Gln Leu Ser Asn Gly Asn Arg Thr Leu Thr Leu Phe Asn Val Thr
139         515                 520                 525
140 Arg Asn Asp Ala Arg Ala Tyr Val Cys Gly Ile Gln Asn Ser Val Ser
141     530                 535                 540
142 Ala Asn Arg Ser Asp Pro Val Thr Leu Asp Val Leu Tyr Gly Pro Asp
143 545                 550                 555                 560
144 Thr Pro Ile Ile Ser Pro Pro Asp Ser Ser Tyr Leu Ser Gly Ala Asn
145                 565                 570                 575
146 Leu Asn Leu Ser Cys His Ser Ala Ser Asn Pro Ser Pro Gln Tyr Ser
147             580                 585                 590
148 Trp Arg Ile Asn Gly Ile Pro Gln Gln His Thr Gln Val Leu Phe Ile
149         595                 600                 605
150 Ala Lys Ile Thr Pro Asn Asn Asn Gly Thr Tyr Ala Cys Phe Val Ser
151     610                 615                 620
152 Asn Leu Ala Thr Gly Arg Asn Asn Ser Ile Val Lys Ser Ile Thr Val
153 625                 630                 635                 640
154 Ser Ala Ser Gly Thr
155                 645
158 <210> SEQ ID NO: 4
```

RAW SEQUENCE LISTING DATE: 10/16/2004
PATENT APPLICATION: **US/10/510,523** TIME: 09:06:06

Input Set : **A:\MER132SEQ.TXT**
Output Set: **N:\CRF4\10162004\J510523.raw**

159 <211> LENGTH: 347
160 <212> TYPE: PRT
161 <213> ORGANISM: Homo sapiens
163 <400> SEQUENCE: 4
164 Asp Cys Gly Leu Pro Pro Asp Val Pro Asn Ala Gln Pro Ala Leu Glu
165 1 5 10 15
166 Gly Arg Thr Ser Phe Pro Glu Asp Thr Val Ile Thr Tyr Lys Cys Glu
167 20 25 30
168 Glu Ser Phe Val Lys Ile Pro Gly Glu Lys Asp Ser Val Ile Cys Leu
169 35 40 45
170 Lys Gly Ser Gln Trp Ser Asp Ile Glu Glu Phe Cys Asn Arg Ser Cys
171 50 55 60
172 Glu Val Pro Thr Arg Leu Asn Ser Ala Ser Leu Lys Gln Pro Tyr Ile
173 65 70 75 80
174 Thr Gln Asn Tyr Phe Pro Val Gly Thr Val Val Glu Tyr Glu Cys Arg
175 85 90 95
176 Pro Gly Tyr Arg Arg Glu Pro Ser Leu Ser Pro Lys Leu Thr Cys Leu
177 100 105 110
178 Gln Asn Leu Lys Trp Ser Thr Ala Val Glu Phe Cys Lys Lys Lys Ser
179 115 120 125
180 Cys Pro Asn Pro Gly Glu Ile Arg Asn Gly Gln Ile Asp Val Pro Gly
181 130 135 140
182 Gly Ile Leu Phe Gly Ala Thr Ile Ser Phe Ser Cys Asn Thr Gly Tyr
183 145 150 155 160
184 Lys Leu Phe Gly Ser Thr Ser Ser Phe Cys Leu Ile Ser Gly Ser Ser
185 165 170 175
186 Val Gln Trp Ser Asp Pro Leu Pro Glu Cys Arg Glu Ile Tyr Cys Pro
187 180 185 190
188 Ala Pro Pro Gln Ile Asp Asn Gly Ile Ile Gln Gly Glu Arg Asp His
189 195 200 205
190 Tyr Gly Tyr Arg Gln Ser Val Thr Tyr Ala Cys Asn Lys Gly Phe Thr
191 210 215 220
192 Met Ile Gly Glu His Ser Ile Tyr Cys Thr Val Asn Asn Asp Glu Gly
193 225 230 235 240
194 Glu Trp Ser Gly Pro Pro Pro Glu Cys Arg Gly Lys Ser Leu Thr Ser
195 245 250 255
196 Lys Val Pro Pro Thr Val Gln Lys Pro Thr Thr Val Asn Val Pro Thr
197 260 265 270
198 Thr Glu Val Ser Pro Thr Ser Gln Lys Thr Thr Thr Lys Thr Thr Thr
199 275 280 285
200 Pro Asn Ala Gln Ala Thr Arg Ser Thr Pro Val Ser Arg Thr Thr Lys
201 290 295 300
202 His Phe His Glu Thr Thr Pro Asn Lys Gly Ser Gly Thr Thr Ser Gly
203 305 310 315 320
204 Thr Thr Arg Leu Leu Ser Gly His Thr Cys Phe Thr Leu Thr Gly Leu
205 325 330 335
206 Leu Gly Thr Leu Val Thr Met Gly Leu Leu Thr
207 340 345
210 <210> SEQ ID NO: 5

RAW SEQUENCE LISTING DATE: 10/16/2004
PATENT APPLICATION: US/10/510,523 TIME: 09:06:06

Input Set : A:\MER132SEQ.TXT
Output Set: N:\CRF4\10162004\J510523.raw

211 <211> LENGTH: 17
212 <212> TYPE: PRT
213 <213> ORGANISM: Mus musculus
215 <400> SEQUENCE: 5
216 Gly Ile Asn Pro Asn Asn Val Gly Ser Ile Tyr Asn Gln Lys Phe Arg
217 1 5 10 15
218 Gly
222 <210> SEQ ID NO: 6
223 <211> LENGTH: 8
224 <212> TYPE: PRT
225 <213> ORGANISM: Mus musculus
227 <400> SEQUENCE: 6
228 Gly Tyr Gly Asn Tyr Val Ala Tyr
229 1 5
232 <210> SEQ ID NO: 7
233 <211> LENGTH: 10
234 <212> TYPE: PRT
235 <213> ORGANISM: Homo sapiens
237 <400> SEQUENCE: 7
238 Thr Leu Leu Ser Val Thr Arg Asn Asp Val
239 1 5 10
242 <210> SEQ ID NO: 8
243 <211> LENGTH: 9
244 <212> TYPE: PRT
245 <213> ORGANISM: Homo sapiens
247 <400> SEQUENCE: 8
248 Tyr Leu Ser Gly Ala Asn Leu Asn Leu
249 1 5
252 <210> SEQ ID NO: 9
253 <211> LENGTH: 117
254 <212> TYPE: PRT
255 <213> ORGANISM: Artificial Sequence
257 <220> FEATURE:
258 <223> OTHER INFORMATION: modified heavy chain variable region of murine
259 antibody
261 <400> SEQUENCE: 9
262 Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Thr Gly Lys Pro Gly Ala
263 1 5 10 15
264 Ser Gly Lys Met Ser Cys Lys Thr Ser Gly His Thr Ser Thr Glu His
265 20 25 30
266 Asn Gly Gln Trp Ala Lys Gln Ser Pro Gly Gln Ser Leu Glu Trp Ile
267 35 40 45
268 Gly Gly Ile Asn Pro Asn Asn Val Gly Ser Ile Tyr Asn Gln Lys Phe
269 50 55 60
270 Arg Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala His
271 65 70 75 80
272 Met Glu Leu Arg Ser Pro Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
273 85 90 95
274 Ala Arg Gly Tyr Gly Asn Tyr Val Ala Tyr Trp Gly Gln Gly Thr Leu

VERIFICATION SUMMARY DATE: 10/16/2004
PATENT APPLICATION: **US/10/510,523** TIME: 09:06:07

Input Set : **A:\MER132SEQ.TXT**
Output Set: **N:\CRF4\10162004\J510523.raw**

L:12 M:270 C: Current Application Number differs, Replaced Current Application No
L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date